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First Physics from HotQCD Collaboration

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First physics from HotQCD collaboration

The following pages show results from the first series of runs on BG/L using the un-optimized code from the MILC collaboration. The calculations were run with the AsqTad improved staggered fermion action and the RHMC algorithm on a 32^3x8 lattice.

The jobs were run mostly during the October, 2006 on approximately 5% of the machine. The run consisted of approximately 1000 trajectories per beta value, spanning beta=6.458 to 6.85, covering a temperature range of 140-210 MeV.

The analysis was performed using scripts provided by Carleton DeTar. Highlight marks on the scanned output show the values of the chiral condensate (green) and polyakov loop (pink).

Nt=8 (m_{u,d} = 0.1ms) RHMC

beta mu,d ms u0 ns nt ReP dReP chi_L dchi_L cgiter dcgiter pbp_ud
dpbp_ud pbp_s dpbp_s plaq dplaq rect drect pgm dpgm pb_dmdu_p_ud
dpb_dmdu_p_ud pb_dmdu_p_s dpb_dmdu_p_s dS1 ddS1 dt accept N logfile
6.4580 0.00500 0.0500 0.8549 32
8 0.0024 0.0002 0.061 0.004 0.0 0.0 0.07995 0.00018 0.1940 0.0001 1.60249
0.00008 0.84230 0.00011 0.86229 0.00013 -4.89294 0.00025
-4.83945 0.00023 0.01430 0.00e+00 0.00e+00 0.00 880
o328f21b6458m00820m0820r.00115_01100
6.5000 0.00500 0.0500 0.8569 32
8 0.0032 0.0003 0.063 0.003 0.0 0.0 0.06690 0.00021 0.1755 0.0002 1.61820
0.00016 0.86239 0.00020 0.88358 0.00020 -4.88984 0.00036
-4.84416 0.00044 0.01430 0.00e+00 0.00e+00 0.00 900
o328f21b650m00765m0765r.00125_01120
6.5500 0.00500 0.0500 0.8594 32
8 0.0047 0.0005 0.074 0.006 0.0 0.0 0.05430 0.00023 0.1561 0.0002 1.63616
0.00014 0.88538 0.00019 0.90795 0.00022 -4.88030 0.00042
-4.84275 0.00045 0.01430 0.00e+00 0.00e+00 0.00 495
o328f21b655m00705m0705r.00160_00720
6.6000 0.00500 0.0500 0.8616 32
8 0.0074 0.0005 0.068 0.004 0.0 0.0 0.04182 0.00018 0.1377 0.0001 1.65320
0.00007 0.90737 0.00010 0.93115 0.00011 -4.87391 0.00018
-4.84310 0.00019 0.01430 0.00e+00 0.00e+00 0.00 925
o328f21b660m00650m0650r.00145_01145
6.6500 0.00500 0.0500 0.8636 32
8 0.0131 0.0008 0.075 0.007 0.0 0.0 0.03116 0.00052 0.1215 0.0003 1.66904
0.00010 0.92786 0.00014 0.95274 0.00020 -4.86806 0.00028
-4.84283 0.00040 0.01430 0.00e+00 0.00e+00 0.00 510
o328f21b665m00599m0599r.00115_00730
6.7000 0.00500 0.0500 0.8657 32
8 0.0191 0.0007 0.073 0.004 0.0 0.0 0.02109 0.00066 0.1062 0.0003 1.68470
0.00006 0.94827 0.00008 0.97417 0.00010 -4.85880 0.00023
-4.83838 0.00029 0.01250 0.00e+00 0.00e+00 0.00 1006
o328f21b670m00552m0552r.00269_01275
6.7600 0.00500 0.0500 0.8678 32
8 0.0276 0.0003 0.077 0.005 0.0 0.0 0.01332 0.00018 0.0905 0.0001 1.70190
0.00005 0.97067 0.00008 0.99759 0.00009 -4.85147 0.00015
-4.83587 0.00017 0.01250 0.00e+00 0.00e+00 0.00 995
o328f21b676m005m05r.00217_01215
6.8000 0.00500 0.0500 0.8692 32
8 0.0333 0.0005 0.085 0.012 0.0 0.0 0.01051 0.00018 0.0820 0.0002 1.71298
0.00007 0.98516 0.00009 1.01276 0.00009 -4.84532 0.00015
-4.83190 0.00014 0.01250 0.00e+00 0.00e+00 0.00 725
o328f21b680m00471m0471r.00205_00950
6.8500 0.00500 0.0500 0.8709 32

8 0.0396 0.0006 0.086 0.007 0.0 0.0 0.00842 0.00011 0.0727 0.0001 1.72655
0.00006 1.00295 0.00007 1.03123 0.00008 -4.83754 0.00014
-4.82664 0.00012 0.01250 0.00e+00 0.00e+00 0.00 750
o328f21b685m00437m0437r.00170_00970